AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A gas ~~Gas~~ separation device for a physiological fluid, comprising:

a containing body having an internal active surface, ~~and having~~ at least one ~~a~~ first inlet aperture for a physiological fluid[[,]] positioned with a tangential direction of access, and at least one outlet aperture for ~~the~~ said fluid spaced apart from ~~the~~ said first inlet aperture; ~~wherein it comprises~~ said containing body having:

a guide element housed at least partially within ~~the~~ said containing body, ~~and having~~ said guide element having a continuous active surface configured ~~designed~~ to contact and guide ~~the~~ said fluid,[[;]] said guide element further comprising:

a first terminal portion configured to face towards said outlet aperture;

a second terminal portion axially opposed to the first terminal portion, said second terminal portion configured to face towards a second chamber extending above said guide element; and

a central portion having a cross section with a radial dimension that is reduced progressively away from said first and second terminal portions, to form an intermediate area having a minimum radial dimension; and

a first annular chamber formed between the active surface of ~~the~~ said guide element and the internal active surface of ~~the~~ said containing body.

2. (Currently Amended) A device ~~Device~~ according to claim 1, wherein ~~the~~ said inlet aperture opens directly into ~~the~~ said first chamber.

3. (Currently Amended) A device ~~Device~~ according to claim 1, wherein ~~the~~ said guide element is wholly housed within the containing body, extends coaxially with the ~~latter~~ containing body, and is spaced axially apart from ~~the~~ said outlet aperture.

4. (Currently Amended) A device ~~Device~~ according to claim 3, wherein the internal active ~~surfaces~~ surface of ~~the~~ said containing body and the active surface of ~~the~~ said guide element face each other and are shaped in the form of surfaces of revolution about a common axis of symmetry, said common axis of symmetry being ~~which is~~ transverse with respect to the tangential direction of access of ~~the~~ said flow.

5. (Currently Amended) A device ~~Device~~ according to claim 1, wherein ~~the~~ said outlet aperture is positioned in a lower end of ~~the~~ said containing body, ~~the~~ said guide element and ~~the~~ said first chamber extending above ~~the~~ said outlet aperture.

6. (Currently Amended) A device ~~Device~~ according to claim 1, wherein ~~the~~ said guide element is a solid or internally hollow solid of rotation, configured ~~designed~~ to reduce the volume of at least ~~the~~ said first chamber.

7-8. (Canceled)

9. (Currently Amended) ~~Device according to Claim 8,~~ A gas separation device for a physiological fluid, comprising:

a containing body having an internal active surface, at least one first inlet aperture for a physiological fluid positioned with a tangential direction of access, and at

least one outlet aperture for said fluid spaced apart from said first inlet aperture; said containing body having:

a guide element housed at least partially within said containing body, said guide element having a continuous active surface configured to contact and guide said fluid; said guide element further comprising:

a central portion;

a first terminal portion configured to face towards said outlet aperture, said first terminal portion having a cross section whose radial dimension is reduced progressively towards said outlet aperture, and wherein ~~the~~ said first terminal portion has a conical shape, said first terminal portion having a ~~with its~~ vertex configured to face ~~facing~~ towards the outlet aperture; and

a second terminal portion axially opposed to the first terminal portion, said second terminal portion configured to face towards a second chamber extending above said guide element; and

a first annular chamber formed between the active surface of said guide element and the internal active surface of said containing body.

10. (Currently Amended) A device ~~Device~~ according to claim 1 ~~Claim 7~~, wherein the second terminal portion has a cross section whose radial dimension is reduced progressively away from ~~the~~ said outlet aperture.

11. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 10, wherein the ~~said~~ second terminal portion has a conical shape, said second terminal portion having a ~~with its~~ vertex opposed to the outlet aperture.

12. (Canceled)

13. (Currently Amended) A device ~~Device~~ according to claim 1 ~~Claim 12~~, wherein the central portion has a curved profile in longitudinal section.

14. (Canceled)

15. (Currently Amended) ~~Device according to Claim 14,~~ A gas separation device for a physiological fluid, comprising:

a containing body having an internal active surface, at least one first inlet aperture for a physiological fluid positioned with a tangential direction of access, and at least one outlet aperture for said fluid spaced apart from said first inlet aperture, wherein said internal active surface of the containing body has:

a first area, of maximum radial dimension, extending around the central portion of the guide element;

a second area, whose radial dimension is reduced progressively towards the outlet aperture, the second area extending consecutively to the first area and substantially around the first terminal portion of the guide element; and

a third area, whose radial dimension is reduced progressively away from the outlet aperture, the third area extending consecutively to the first area and essentially around the second terminal portion of the guide element;

wherein said containing body comprises:

a guide element housed at least partially within said containing body, said guide element having a continuous active surface configured to contact and guide said fluid; said guide element further comprising:

a central portion;

a first terminal portion configured to face towards said outlet aperture;

a second terminal portion axially opposed to the first terminal portion, said second terminal portion configured to face towards a second chamber extending above said guide element; and

a first annular chamber formed between the active surface of said guide element and the internal active surface of said containing body, wherein the first inlet aperture opens into ~~the~~ said first annular chamber[[,]] in ~~the~~ said ~~intermediate~~ first area of the internal active surface of the containing body.

16. (Currently Amended) A device ~~Device~~ according to claim 15 ~~Claim 14~~, wherein the first area of the active surface has a constant radius.

17. (Currently Amended) ~~Device according to Claim 1,~~ A gas separation device for a physiological fluid, comprising:

a containing body having an internal active surface, at least one first inlet aperture for a first physiological fluid positioned with a tangential direction of access, and at least one outlet aperture for said first physiological fluid spaced apart from said first inlet aperture; said containing body having:

a guide element housed at least partially within said containing body, said guide element having a continuous active surface configured to contact and guide said first physiological fluid;

a first annular chamber formed between the active surface of said guide element and the internal active surface of said containing body; and.

~~wherein the said containing body comprises~~ a second inlet aperture located above ~~the~~ said first inlet aperture, said second inlet aperture being configured ~~and designed~~ to convey a second physiological fluid into the containing body.

18. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 17, ~~wherein it comprises~~ further comprising a second chamber extending above ~~the~~ said guide element[[,]] in an axially consecutive position, said second chamber being ~~and~~ in fluid communication with ~~the~~ said first chamber and ~~with the~~ said second inlet aperture.

19. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 18, wherein ~~the~~ said second inlet aperture opens directly into ~~the~~ said second chamber~~,~~ ~~preferably~~ in a direction parallel to, and staggered with respect to, that of ~~the~~ said first inlet aperture.

20. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 18, wherein ~~the~~ said containing body includes a third chamber~~, which is~~ being axially consecutive to ~~the~~ said second chamber, said third chamber being configured ~~and which is designed~~ to contain the gas separated from the ~~said~~ first and second physiological fluids, ~~the said third chamber extending~~ and to extend in the top of ~~the~~ said containing body.

21. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 20, ~~wherein it comprises~~ further comprising at least one service line having a first end ~~which is brought into~~ in fluid communication with ~~the~~ said third chamber by means of a fourth aperture formed in ~~the~~ said containing body.

22. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 21, ~~wherein it comprises~~ further comprising at least one pressure sensor element associated for operation with ~~the~~ said service line.

23. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 21, ~~wherein it comprises~~ further comprising at least one hydrophobic membrane associated for operation with an intermediate area of the service line.

24. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 21, wherein the third chamber has a nominal volume V_c delimited below by a theoretical maximum level line BL and above by ~~the~~ said fourth aperture.

25. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 21, further comprising a pneumatic circuit operating in ~~the~~ said service line[[,]] for selectively sending gas to the service line and drawing gas from ~~it~~ the service line.

26. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 25, further comprising a liquid level sensor LLS located above a level BL, and a control unit connected to the sensor LLS and ~~designed~~ configured to control ~~the~~ said pneumatic circuit to maintain the liquid level in the vicinity of ~~the~~ said level BL.

27. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 26, ~~in which~~ wherein the level sensor LLS operates in a section of the service line and ~~in~~

~~which the~~ said control unit is ~~designed~~ configured to cause the execution of the following steps:

[[–]] determining whether LLS is signalling the presence of liquid, and, if so, executing the following sub-steps in sequence:

a) activation of the pneumatic circuit to drive towards the third chamber a volume V_1 equal to the volume between the section in which LLS operates and the fourth aperture,

b) activation of the pneumatic circuit to draw gas from the third chamber while LLS continues to signal the presence of liquid, and

c) activation of the pneumatic circuit to drive towards the third chamber a volume of liquid V_2, equal to $V_1 + V_c$, where V_c is the volume of the third chamber;

[[–]] if, on the other hand, LLS is not signalling the presence of liquid, executing the aforementioned three steps a), b) and c) at specified time intervals.

28. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 21, ~~wherein it comprises~~ further comprising at least one access site located in ~~the~~ said service line for manually drawing fluid from ~~the~~ said line or sending fluid into ~~it~~ said line.

29. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 26, wherein the level sensor LLS can operate on ~~the~~ said containing body.

30. (Currently Amended) ~~Device according to Claim 1,~~ A gas separation device for a physiological fluid, comprising:

a containing body having an internal active surface, at least one first inlet aperture for a physiological fluid positioned with a tangential direction of access, and at

least one outlet aperture for said fluid spaced apart from said first inlet aperture; said containing body having:

a guide element housed at least partially within said containing body, said guide element having a continuous active surface configured to contact and guide said fluid; and

a first annular chamber formed between the active surface of said guide element and the internal active surface of said containing body;

said gas separation device ~~wherein it comprises~~ further comprising:

[[–]] a first line for sending the physiological fluid into ~~the~~ said containing body through the first inlet aperture,

[[–]] a second line for sending a second fluid into ~~the~~ said containing body through a second inlet aperture,

[[–]] a first pump operating to create a flow along the first line,

[[–]] a second pump operating to create a flow along the second line, and

[[–]] a control unit programmed to control the first and second pumps operating in the first and second lines and to ensure the constant presence in the containing body of a layer of ~~the~~ said second fluid ~~whose~~ having a thickness that lies within a specified range, ~~this~~ said layer being located above the physiological fluid.

31. (Currently Amended) A fluid ~~Fluid~~ mixing device with gas separation, comprising a containing body having an internal active surface and having at least one first inlet aperture for a first physiological fluid, and at least one fluid outlet aperture, spaced apart from ~~the~~ said first inlet aperture, wherein the containing body has at least one second inlet aperture located above ~~the~~ said first inlet aperture, said second inlet

aperture being configured ~~and designed~~ to convey a second fluid into the containing body to form a layer of ~~the~~ said second fluid above ~~the~~ said physiological fluid.

32. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 31, wherein ~~the~~ said containing body includes:

[[–]] at least a first chamber extending in a lower area of the containing body and in fluid communication with ~~the~~ said outlet aperture;

[[–]] at least a second chamber, extending in an axially consecutive upper area and in fluid communication with ~~the~~ said first chamber.

33. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 32, wherein ~~the~~ said containing body includes a third chamber~~, which is~~ being axially consecutive to ~~the~~ said second chamber, said third chamber being configured ~~and which is designed~~ to contain the gas separated from the ~~said fluids~~ first physiological fluid and the second fluid, ~~the said third chamber~~ and extending in the top of ~~the~~ said containing body and having a fourth aperture.

34. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 33, ~~wherein it comprises~~ further comprising at least one service line having a first end ~~which is brought into~~ in fluid communication with ~~the~~ said third chamber by means of the fourth aperture formed in ~~the~~ said containing body.

35. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 34, ~~wherein it comprises~~ further comprising at least one pressure sensor element associated for operation with ~~the~~ said service line.

36. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 35, ~~wherein it comprises~~ further comprising at least one hydrophobic membrane associated

for operation with an intermediate area of the service line, between the fourth aperture and the pressure sensor element.

37. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 33, wherein the third chamber has a nominal volume V delimited below by a theoretical maximum level line BL and above by ~~the~~ said fourth aperture.

38. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 34, further comprising a pneumatic circuit for selectively sending gas to the service line and drawing gas from the service line.

39. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 38, further comprising a liquid level sensor LLS located above a level BL, and a control unit connected to the sensor LLS and ~~designed~~ configured to control ~~the~~ said pneumatic circuit to maintain the liquid level in the vicinity of ~~the~~ said level BL.

40. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 39, ~~in which the~~ wherein said level sensor is located in ~~the~~ said service line and ~~the~~ said control unit is ~~designed~~ configured to cause the execution of the following steps:

[[–]] determining whether LLS is signalling the presence of liquid, and, if so, executing the following sub-steps in sequence:

a) activation of the pneumatic circuit to drive towards the third chamber a volume V_1, equal to the volume between the section in which LSS operates and the fourth aperture,

b) activation of the pneumatic circuit to draw gas from the third chamber while LSS continues to signal the presence of liquid,

c) activation of the pneumatic circuit to drive towards the third chamber a volume of liquid V_2, equal to $V_1 + V_c$, where V_c is the volume of the third chamber;

[[–]] if, on the other hand, LLS is not signalling the presence of liquid, executing the aforementioned three steps a), b) and c) at specified time intervals.

41. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 34, ~~wherein it comprises~~ further comprising at least one access site located in ~~the~~ said service line for manually drawing fluid from the service line or sending fluid to ~~it~~ the service line.

42. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 39, wherein the level sensor LLS operates on the said containing body.

43. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 31, ~~wherein it comprises~~ further comprising:

[[–]] a first line for sending the physiological fluid into ~~the~~ said containing body through the first inlet aperture,

[[–]] a second line for sending the second fluid into ~~the~~ said containing body through the second inlet aperture,

[[–]] a first pump operating to create a flow along the first line,

[[–]] a second pump operating to create a flow along the second line,

[[–]] a programmable control unit for controlling the first and second pumps operating in the first and second lines and for ensuring the constant presence in the containing body of a layer whose thickness lies within a specified range, ~~this~~ said layer being located above the first physiological fluid.

44. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 43, wherein the control unit activates the second pump operating in the said second line in a continuous or intermittent mode[[,]] to provide a specified flow rate at every specified time interval.

45. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 43, ~~wherein it comprises~~ further comprising a means for sensing the actual flow in the second line, ~~this sensor~~ said sensing means sending corresponding signals to ~~the~~ said control unit.

46. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 43, ~~in which~~ wherein the thickness of ~~the~~ said layer is smaller than the maximum diameter of the internal surface of the containing body.

47. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 32, ~~in which~~ wherein ~~the~~ said first inlet aperture opens directly into ~~the~~ said first chamber in a tangential direction of access, and ~~in which the~~ said second inlet aperture opens directly towards ~~the~~ said second chamber in a direction of access parallel to that of ~~the~~ said first aperture.

48. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 47, further comprising a guide element housed at least partially within ~~the~~ said body and having a continuous active surface designed to contact and guide ~~the~~ said first physiological fluid, ~~the~~ said first chamber having an annular configuration and being formed between the active surface of ~~the~~ said element and the active surface of the containing body.

49. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 48, wherein ~~the~~ said guide element is wholly housed within the containing body, extends coaxially with the ~~latter~~ containing body, and is spaced axially apart from ~~the~~ said outlet aperture.

50. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 48, wherein the internal active ~~surfaces~~ surface of ~~the~~ said containing body and the active surface of ~~the~~ said guide element face each other and are shaped in the form of surfaces of revolution about a common axis of symmetry ~~which is~~ being transverse with respect to the tangential direction of access of ~~the~~ said flow.

51. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 48, wherein ~~the~~ said outlet aperture is positioned in a lower end of ~~the~~ said containing body, ~~the~~ said guide element and ~~the~~ said first chamber extending above ~~the~~ said outlet aperture.

52. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 50, wherein ~~the~~ said guide element is a solid or internally hollow solid of rotation[[,]] ~~designed~~ configured to reduce the volume of at least ~~the~~ said first chamber.

53. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 48, wherein ~~the~~ said guide element comprises:

[[–]] a central portion;

[[–]] a first terminal portion, facing towards ~~the~~ said outlet aperture; and

[[–]] a second terminal portion, axially opposed to the first terminal portion and facing towards ~~the~~ said second chamber.

54. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 53, wherein the first terminal portion has a cross section whose radial dimension is reduced progressively towards ~~the~~ said outlet aperture.

55. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 54, wherein ~~the~~ said first terminal portion has a conical shape, said first terminal portion having a ~~with its~~ vertex facing towards the outlet aperture.

56. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 53, wherein the second terminal portion has a cross section whose radial dimension is reduced progressively away from ~~the~~ said outlet aperture.

57. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 56, wherein ~~the~~ said second terminal portion has a conical shape, said second terminal portion having a ~~with its~~ vertex opposed to the outlet aperture.

58. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 53, wherein the central portion has a cross section with a radial dimension ~~which~~ that is reduced progressively away from ~~the~~ said first and second terminal portions[[,]] to form an intermediate area having a minimum radial dimension.

59. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 58, wherein the central portion has a curved profile in longitudinal section.

60. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 53, wherein ~~the~~ said active surface of the containing body has:

[[–]] a first area, of maximum radial dimension, extending around the central portion of the guide element;

[[–]] a second area, whose radial dimension is reduced progressively towards the outlet aperture, the second area extending consecutively to the first area and essentially around the first terminal portion of the guide element; and

[[–]] a third area, whose radial dimension is reduced progressively away from the outlet aperture, the third area extending consecutively to the first area and essentially around the second terminal portion of the guide element.

61. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 60, wherein the first inlet aperture opens into ~~the~~ said first chamber, in ~~the~~ said intermediate first area.

62. (Currently Amended) A device ~~Device~~ according to claim ~~Claim~~ 60, wherein the first area of the active surface of the containing body has a constant radius.

63. (Currently Amended) A fluid ~~Fluid~~ mixing method with gas separation, comprising the following steps:

[[–]] providing a containing body having an internal active surface and having at least a first inlet aperture, at least one fluid outlet aperture spaced apart from ~~the~~ said first inlet aperture, and at least a second inlet aperture located above ~~the~~ said first inlet aperture;

[[–]] sending a first physiological fluid into the containing body through ~~the~~ said first aperture;

[[–]] conveying a second fluid into the containing body through ~~the~~ said second aperture to form a layer of ~~the~~ said second fluid above ~~the~~ said first physiological fluid;

[[–]] conveying a separated gas from ~~the~~ said first physiological fluid and said second ~~fluids~~ fluid above ~~the~~ said layer.

64. (Currently Amended) A method ~~Method~~ according to claim ~~Claim~~ 63, ~~wherein it comprises~~ further comprising the steps of:

[[–]] measuring the flow rate of ~~the~~ said first physiological fluid;

[[–]] measuring the flow rate of ~~the~~ said second fluid;

[[–]] regulating the flow rate of ~~the~~ said first physiological fluid and ~~the~~ said second fluid to provide a layer of ~~the~~ said second fluid with a thickness lying within a specified range.

65. (Currently Amended) A method ~~Method~~ according to claim ~~Claim~~ 64, wherein ~~the~~ said second fluid is sent, in continuous or intermittent mode, in a direction of access to the containing body parallel to that of ~~the~~ said first physiological fluid.

66. (Currently Amended) A method ~~Method~~ according to claim ~~Claim~~ 64, wherein the thickness of ~~the~~ said layer is kept below the maximum diameter of the internal surface of the containing body.